

Note on the hail-storm of Thursday the 24th March.—By HENRY F. BLANFORD, A. R. S. M., F. G. S., Joint Secretary of the Asiatic Society.

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The formation of hail is well known to be one of the most obscure phenomena of meteorology, more especially in the case of hail-stones of unusual size, which, from the very circumstances of the case, must be formed within the space of the few seconds succeeding the consolidation of their nuclei, and during which they are falling, in obedience to the law of gravity. In tropical climates, where the temperature at a considerable height from the earth is much above the freezing point, and where nevertheless, some of the largest recorded hail-stones have fallen, the stones must attain their maximum dimensions in the first portion of their fall, and during some subsequent seconds, must be subject to the liquifying influence of the lower and denser strata of the atmosphere. It has appeared to me therefore that a few observations on the stones which fell in Calcutta in a hail-storm on Thursday the 24th ultimo, may be not without interest as a contribution to this branch of Meteorology. For the thermometric, barometric and anemometric observations I am indebted to Col. Thuillier, the Surveyor-General.

The storm commenced about $\frac{1}{4}$ to 6 in the afternoon, the wind being from the south-east, and for a few minutes previous to the fall blowing in strong intermittent gusts, though not stronger than commonly precede the afternoon showers of this season.* The clouds, a thick mass of nimbus, approached or formed from the north-west, but did not move at any great rate, and indeed they appeared to be stationary during the latter part of the storm. Lightning was frequent, and forked, radiating in zig-zags from a small mass of cloud to those around, and the thunder was frequent and almost continuous, but not loud. Heavy drops of rain began to fall at $\frac{1}{4}$ to 6, and were soon accompanied by a few hail-stones about the size of hazel nuts. They were not very numerous,

* At the Botanic Gardens, the stillness of which is more favourable to observation than the noise of Chowringhee, Dr. Anderson noticed that the storm was preceded by a prolonged rushing sound, similar to that which would be produced by a number of railway trains rushing by at no great distance. This increased gradually, apparently from the north or north by west, and appeared to pass overhead, before the hail fell. The direction of the hail near the ground was from the south-east.

Fig. 1.

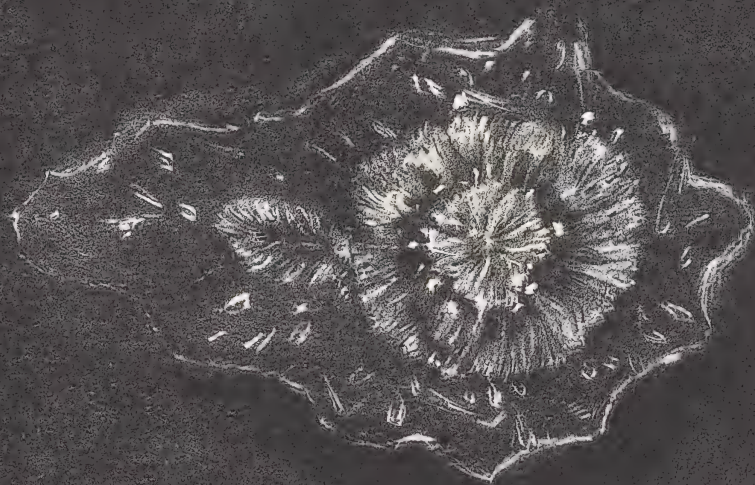


Fig. 2.



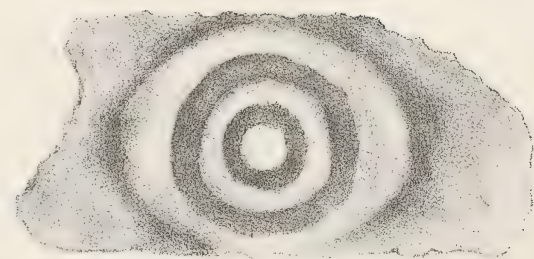
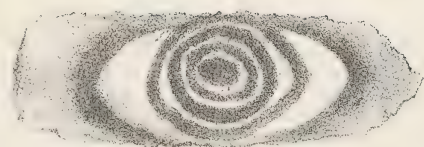
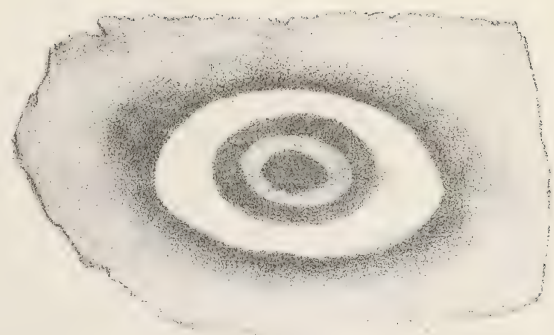
Fig. 2.A



Fig. 3.

Sections of Hailstones Observed on 24th March 1864.





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